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This investigation sought to determine which, if any, of 14 demographic variables affected junior college success. (A GPA of 2.0 was considered successful academic achievement.) The responses of 135 full-time day students were analyzed using Chi-square. The students were all of those enrolled in electronics technology and nursing and a random selection from the transfer program. The variables were (1) residency (in or out of the college district), (2) age, (3) sex, (4) size of high school graduating class, (5) type of high school, (6) curriculum followed in high school, (7) marital status, (8) housing arrangements (on or off campus, with parents, or alone), (9) automobile ownership, (10) level of aspiration, (11) financial need, (12) vocational role, (13) extracurricular plans, and (14) work plans. The results showed that only two of these factors significantly differentiated between successful and unsuccessful students. The chances of success were greater if the student were female and/or were planning to work part time. Further investigation of specific non-intellectual variables and their influence on academic success is recommended to increase our knowledge of student behavior. (HH)

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NON-INTELLECTIVE VARIABLES RELATED TO SUCCESSFUL AND UNSUCCESSFUL STUDENTS IN A JUNIOR COLLEGE

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Attempts to identify factors which are significantly related to academic achievement have been the focus of considerable investigation for the past several decades. This focus has been primarily centered on intellective factors and measures. The relationships between past academic achievement, tests of aptitude, and tests of achievement with college success has a coefficient of correlation range of approximately .30 to .83, with a median coefficient of correlation of approximately .50 (Garrett, 1949).

While most intellective measures are valuable and useful in attempting to explain successful school achievement, investigation will continue to take place to try and explain the remaining 40 to 50% of the variance in achievement not accounted for by past performance.

The solution of the problem of increasing the ratio of successful students will possibily be enhanced by identifying and isolating non-intellective variables. In the past, the primary purpose of collecting demographic information has been clinical. However, recently much research activity has centered around validating various hypotheses which have been generated from analyses of demographic information.

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The present study will utilize the demographic information accumulated on various pre-admission forms, and analyze this information with respect to student success or failure. The purpose of this study is to identify variables which differentiate between successful and unsuccessful students in a junior college.

During the past 20 years a number of investigations have been conducted to determine if any relationships exist between college success (achievement) and a wide range of non-intellective factors. Some of these studies have been concerned with several factors which might be related to college success, while others have focused on analyzing single factors in detail to determine the relationship between college success and the variable under study.

To date, there is little consensus on the importance of specific demographic variables in relation to college success. This fact, along with the conflicting results derived from research on a diversity of variables, emphasizes the need for well-defined, rigidly executed, research.

In a review of literature, Schroeder and Sledge (1966) found no significant relationships between academic success and courses and course patterns, and high school size; inconclusive results were found in comparing academic success with socio-economic status, characteristics of home community, residence, and college major; and significant relationships were found between academic success and age, sex, and part-time work.

Magoon and Maxwell (1965) in an attempt to ascertain which, if any, of 22 selected demographic variables differentiated high-achieving from failing or marginally achieving college students, found: eight of the variables significantly differentiating successful and unsuccessful Arts and Science men, two revealed differences for Engineering men, six for Arts and Science women, and twelve for women in Education. The conclusion was drawn that the traits and characteristics related to high achievement, vary both between the sexes and between the different colleges.

In an attempt to differentiate between successful and unsuccessful students who had been readmitted, Kerr and McCaa (1964) compared general academic aptitude and the information from a completed questionnaire from each of 91 students who were readmitted after having been previously dropped from college because of poor scholarship. The results indicated that successful readmitted students may be more easily distinguishable from the unsuccessful by way of motivational, attitudinal, and social-perceptual factors related to adequate interpersonal adjustment than on the basis of educational and home factors.

The following variables were investigated by Derian (1962) in 11 junior colleges--age, marital status, high school grade point average, previous college work, and scholastic aptitude test scores. The purpose of the study was to determine if attrition for scholastic reasons could be reduced by the use of information which is available at the time of admission

to the program without eliminating a large number of potentially successful students. It was concluded that the chances for success were higher if: the student was over 21, married, and had attended college previously.

In a study designed to determine what non-intellective variables actually measure, Asher and Gray (1940) stated their most significant finding was the zero correlation between personal history and general ability scores, and the multiple correlations between these scores and the criteria (success in school). It is obvious that the personal history score is getting at some factor or factors involved in college success that are not tapped by the general ability tests.

Sample and Procedure

A sample of 135 full-time, day enrolled students was drawn from a list of entering Junior College District #522, Belleville, Illinois students enrolled in the college transfer, electronics technology, and nursing curricula during the fall of 1967. These three programs represent the major division offerings available to full-time day students.

The sample comprises all of the students in electronics technology and nursing, and a random sample of students enrolled in the college transfer curriculum. The inclusion of all students in electronics technology and nursing was necessary because of the relatively small enrollments in these areas.

Full-time status requires a student to be enrolled for a minimum of 12 semester hours. Successful academic achievement

was judged on the basis of attaining at least a 2.0 grade point average on a 4.0 scale, with unsuccessful considered less than 2.0. First semester junior college grade point averages were used to distinguish between the succeeding and non-succeeding groups.

Demographic information derived from the school's admission application form and the American College Testing Service Student Profile Report was the source for the selection of the variables investigated.

The variables chosen for use in this study included:

1) Residency--in or out of the junior college district;
2) Age;
3) Sex;
4) Size of high school graduating class;
5) Type of high school--public or parochial;
6) Curriculum followed in high school--vocational, academic, or general;
7) Marital status;
8) Housing--whether a student lived at home or independent of parents and/or relatives;
9) Automobile--possession of an automobile;
10) Level of educational aspiration--less than a baccalaurate degree, a baccalaurate degree, or greater than a baccalaurate degree;
11) Vocational role--the type of role the student expects to play in a particular vocation, e.g., researcher, practitioner, administrator, etc.;

12) Extracurricular plans--number of activities expected to participate in;

13) Financial need--as indicated by the student's need for financial assistance through loans or scholarships;

14) Work plans--number of hours planning to work.

Through the use of chi-square, the null hypothesis was tested for each of the 14 variables.

Results

The following variables did not distinguish between successful and unsuccessful students:

Items: (1) residency, (2) age, (4) size of high school graduating class, (5) type of high school, (6) curriculum followed in high school, (7) marital status, (8) housing, (9) automobile, (10) level of educational aspiration, (11) vocational role, (12) extracurricular activities, (13) financial need.

There were two variables which significantly differentiated between successful and unsuccessful students. Sex (item 3) significantly differentiated between successful and unsuccessful students ($X^2=4.21$ df 1, $P<.05$). Thus, 72% of the females under investigation were successful, compared to 54% of the males. This fact may be related to the area of study chosen by the females under investigation. The majority of the females were enrolled in the nursing curriculum, where individual attention and consideration is extended beyond that which is

afforded to the population in general.

The work plans of a student (item 14) significantly differentiated (X^2=24.21 df 4, P<.05) between successful and unsuccessful students. The percentage of successful students who were planning to work totaled 46%, whereas the unsuccessful student who anticipated working totaled only 31%. The data indicates that the chances of succeeding increase as a student couples part-time work with attendance in school.

Insert Table 1 about here

Summary

The responses of 135 Junior College District #522, Belleville, Illinois students on 14 demographic variables were analyzed to determine whether these variables might differentiate between successful and unsuccessful students. The sample was comprised of the following groups: all enrollees in electronics technology and nursing, and a random sample of students selected from the college transfer curriculum. The response patterns of successful and unsuccessful students were analyzed using chi-square.

The results indicated that two of the 14 variables under investigation significantly differentiated between successful and unsuccessful students.

Contrasting the successful and unsuccessful students, the conclusion may be drawn that the chances of success are greater if a student is a female and/or is planning to work part-time.

This conclusion is supported by the findings of Schroeder and Sledge (1966).

The lack of significance obtained on the following variables: residency, age, size of high school graduating class, type of high school, curriculum followed in high school, marital status, possession of an automobile, level of aspiration, financial need, vocational role, and extracurricular plans, in some instances is supported by previous research (Magoon and Maxwell, 1965; Schroeder and Sledge, 1966) and in others conflicts with the evidence presented in previous investigations (Derian, 1962; Magoon and Maxwell, 1965).

A possible explanation for the lack of agreement between the reported evidence of this study with other studies of a similar nature may be due to the research design. Magoon and Maxwell (1965) in a similar study suggested that demographic studies should avoid pooling respondents of different colleges within an institution because factors associated with high or low achievement vary between colleges within a university.

It does seem apparent that there are specific non-intellective variables that do distinguish between successful and unsuccessful students. Through further investigations, designed in the manner suggested, our knowledge of student behavior should be increased.

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TABLE 1

Chi-Square Values

Variable	X^2 Obtained	df
Residency	1.44	1
Age	5.25	3
Sex	*4.21	1
Size of H.S. Graduating Class	.88	2
Type of High School	.36	1
Curriculum in High School	5.15	3
Marital Status	.06	1
Housing	.01	1
Automobile	.01	1
Level of Aspiration	.13	2
Financial Need	.01	1
Vocational Role	3.56	5
Extracurricular Plans	8.33	5
Work Plans	*24.21	4

*=Significance Beyond .05 Level